Claims

1. A method for detecting disseminated tumor cells from a body fluid, in which non-tumor cells which express at least one of cytokeratins 1-20 are separated from tumor cells which express at least one of cytokeratin 1-20, in which

(a) tumor cells are enriched by a cell separation medium which has a density in the range from 1.055 to 1.065 g/ml being overlaid with the body fluid and being centrifuged, thus separating cytokeratin-positive and cytokeratin-negative blood cells from one another, with the enriched tumor cells being present in the same fraction as the cytokeratin-negative blood cells; and
(b) it is determined whether the enriched cells express an epithelial marker, which is cytokeratin, characterized in that there is reverse transcription of mRNA from the enriched cells, and a PCR is carried out with at least one cytokeratin-specific primer, where the cytokeratin is selected from the group consisting of cytokeratin 1 to 20.

2. The method as claimed in claim 1, characterized in that the centrifugation is carried out in a vessel which is divided by a porous barrier, a filter, a sieve or a flap into an upper and a lower compartment, the cell separation medium being introduced into the lower compartment, and the body fluid being put in the upper compartment.

3. The method as claimed in claim 2, characterized in that the porous barrier, the filter, the sieve or the flap have a thickness of 0.5-10 mm, preferably of 1-5 mm.

4. The method as claimed in claim 2 or 3,

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characterized in that the porous barrier, the filter, the sieve or the flap have a porous size of 20-100 µm, preferably 20-30 µm.

5. The method as claimed in either of claims 3 or 4, characterized in that characterized in that the porous barrier, the filter, the sieve or the flap consist of a hydrophobic material or are coated with a hydrophobic material.

6. The method as claimed in any of the preceding claims, characterized in that the cell separation medium comprises a dye which makes the cell separation medium distinguishable in color from the overlying body fluid, and thus simplifies location of the interphase.

7. The method as claimed in any of the preceding claims, characterized in that in step b) there is determination in single or combination analysis of whether the enriched cells express at least one epithelial marker, namely one of cytokeratins 1-20.

8. A kit comprising a cell separation medium which has a density in the range 1.055-1.065 g/ml, and means for detecting the expression of the epithelial marker cytokeratin, characterized in that the means for detecting the expression of at least one of cytokeratins 1-20 is selected from cytokeratin-specific primers.

9. The kit as claimed in claim 8, characterized in that a washing buffer, optionally in concentrated form, is additionally present for washing the enriched cells.

10. The kit as claimed in either of claims 8 or 9, characterized in that at least one centrifugation vessel is additionally present.